

November 5, 1998

Nov 9 10 10 AM '98

Mr. Chuck Schwer
VT Sites Management Section
103 South Main Street/ West Office
Waterbury, VT 05671-0404

ENCLOSURE

98-2489

Dear Mr. Schwer:

Enclosed please find the copy of the Site Investigation Report for our property in Jericho, VT. We are currently living separately in temporary situations as a direct result of the delay of the original closing date. Any action that would expedite this process would be appreciated. If you have any questions or concerns, we can be reached at (802) 899-4503. Thank you for your time.

Sincerely,

Raymond and Lori Nadeau



TWIN STATE ENVIRONMENTAL CORP.

P.O. Box 719, Commercial Park, 1A Huntington Road, Richmond, VT 05477

Tel.: (802) 434-3350 • Fax: (802) 434-4478 • Email: tsefs@together.net

Phase (check one)	Type (check one)
<input checked="" type="checkbox"/> Site Investigation	<input type="checkbox"/> Work Scope
<input type="checkbox"/> Corrective Action Feasibility Investigation	<input checked="" type="checkbox"/> Technical Report
<input type="checkbox"/> Corrective Action Plan	<input type="checkbox"/> PCF Reimbursement Request
<input type="checkbox"/> Corrective Action Summary Report	<input type="checkbox"/> General Correspondence
<input type="checkbox"/> Operations & Monitoring Report	

SITE INVESTIGATION REPORT

November 4, 1998

Nadeau Residence
38 Palmer Lane
Jericho, Vermont

Site # 98-2489

TSEC Project # 98-120

Report Prepared for:
Mr. Ray Nadeau
c/o FW Webb
35 Stebbins Street
St. Albans, Vermont 05478
(800) 696-3763

Written By:

Jon Berntsen
Project Manager

Reviewed By:

John R. Diego
Vice President

1.0 INTRODUCTION

This report was prepared by Twin State Environmental Corporation (TSEC) under an agreement with Mr. Ray Nadeau (Current SITE Owner) to present the findings of our recent subsurface investigation at 38 Palmer Lane in Jericho, Vermont (SITE) (See SITE Location Map, **Figure 1**, and SITE Plan, **Figure 2**). The investigation was initiated due to the discovery of petroleum impacted soils during the September 1998 closure of a 500 gallon capacity diesel underground storage tank (UST) at the SITE.

2.0 BACKGROUND

2.1 UST Removal Activities

On September 24, 1998, TSEC was present at the SITE to observe the removal of the above-mentioned UST; the tank had been out of service for approximately one (1) year. During removal activities, soil samples were collected and field screened for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID). Soils within the tank cavity consisted of sandy clay with angular stones. Some small cobbles were also present.

VOC data indicated that petroleum has impacted the soils. PID readings ranged from <0.1 parts per million volume (ppmv) at the top of the UST, to 203 ppmv below the UST, at 6.0 ft below ground surface (bgs). It appeared as though PID concentrations were increasing with depth.

Following soil field screening activities, a soil sample was collected from 6.0 ft bgs and submitted to Endyne, Inc. of Williston, Vermont (Endyne) for laboratory analysis. Samples were analyzed via US EPA Method 8100M for total petroleum hydrocarbons (TPH) as fuel oil and via US EPA Method 8015 for TPH as gasoline.

2.2 Soil Analyses

Laboratory data returned from Endyne, presented as **Table 1**, indicates that the soils are contaminated predominantly by fuel oil. The soil sample contained 375 milligrams per kilogram (mg/kg) of TPH as gasoline, and 1,410 mg/kg of TPH as fuel oil. The complete laboratory package from Endyne is presented as **Attachment 1**. Typically, there is an overlap of compounds in fuel oil and gasoline that would lead to a positive TPH value as both fuel oil and gasoline, even though fuel oil is the likely contaminant.

Based on information obtained during UST removal activities, an additional subsurface investigation was recommended to define the degree and extent of petroleum contamination.

3.0 SCOPE OF SERVICES

The following scope of services were performed by TSEC during this investigation, under the State of Vermont (VT) Expressway Site Investigation Program. A request to participate in the

program was submitted on September 29, 1998. Authorization to proceed was granted by Mr. Chuck Schwer of the VT Sites Management Section (SMS) on October 15, 1998:

- A SITE specific Health and Safety Plan (HASP) was prepared in accordance with OSHA guidelines (29 CFR 1910.120).
- DIG SAFE was contacted and requested to provide an underground utility markout (Clearance #984 202 557) as required by law.
- Nine (9) Geoprobe® borings were advanced at the SITE to investigate soil and groundwater contamination resulting from the UST. Recovered soil samples were screened for VOCs using a Thermo Environmental Instruments Organic Vapor Meter (OVM) equipped with a 10.6 eV PID lamp. Conventional headspace methods were utilized to measure the volatile components liberated from the soil.
- A complete SITE survey was conducted that included the location of pertinent SITE features and environmental sampling locations.
- A water sample was collected from the SITE water supply well and analyzed for VOC's by US EPA Method 524.2.
- This summary report was prepared, discussing SITE history, investigation methods, procedures, and findings. Professional recommendations are also included that address the contamination discovered at the SITE.

4.0 SITE LOCATION AND DESCRIPTION

SITE Owner: Mr. Ray Nadeau
SITE 38 Palmer Lane
Address: Quechee, Vermont
Lat./Long.: 44°31'34.42" North 72°57'4.54" West
Zoning: Residential
Utilities: Water- Private Well
Sewer- On-SITE Septic System
Electric- Underground Connection to house from southeast corner of SITE.
Structures: One (1) single story ranch style residence with attached garage. One (1) 2,000 gallon capacity fuel oil UST is located adjacent to the southwest corner of the residence.

The SITE is located on Palmer Lane, approximately 1,500 feet northwest of Route 15 in Jericho, Chittenden County, Vermont (see SITE Location Map, Figure 1). The building on SITE is currently in use as a private residence. The current heating oil UST at the SITE is located adjacent to the southwest corner of the SITE building.

The SITE is residentially zoned and is situated in a mixed residential and agricultural land use area. Properties adjacent to the SITE consist of open fields to the north and south, and residences to the east and west.

The topography of the southern portion of the SITE is relatively flat. The topography slopes down to the north, and steeply down to the east, and up to the west. The nearest surface water is The Creek, located approximately 1,200 feet east and 25 ft± below the SITE. The nearest sensitive receptor is the SITE supply well located approximately 245 ft ± from the recently removed UST.

5.0 SITE INVESTIGATION ACTIVITIES

The subsurface exploration program described below was conducted to gather data to provide a better understanding of the hydrogeology and contaminant distribution on SITE.

5.1 Advancement of Soil Borings

TSEC completed nine (9) soil borings on SITE on October 19, 1998 using Geoprobe® direct push technology. The borings were installed in the following locations and are depicted on the SITE Plan, Figure 2.

- Soil Boring B-1 was advanced approximately 20 ft to the southwest of the former UST, in an attempt to establish background conditions. This boring was completed to a total depth of 8.0 ft bgs.
- Soil Boring B-2 was advanced directly adjacent to the north end of the existing 2,000 gallon fuel oil UST, in an attempt to determine whether the UST may be leaking. This boring was advanced to a total depth of 8.0 ft bgs.
- Soil Boring B-3 was advanced directly adjacent to the west end of the 2,000 gallon fuel oil UST, in an attempt to determine whether the UST may be leaking. This boring was advanced to a total depth of 8.0 ft bgs.
- Soil Boring B-4 was advanced directly adjacent to the south end of the 2,000 gallon fuel oil UST, in an attempt to determine whether the UST may be leaking. This boring was advanced to a total depth of 8.0 ft bgs.
- Soil Boring B-5 was advanced approximately 10 ft south of the former UST, to determine the lateral extent of petroleum contamination. Refusal was encountered at 6.0 ft bgs.
- Soil Boring B-6 was advanced in the location of the former UST. Refusal was encountered at 5.5 ft bgs. Due to the importance of this sampling location, a second boring, Soil Boring B-6B was advanced approximately 5 ft to the west of B-6. This boring was completed to refusal at a total depth of 12.0 ft bgs.

- Soil Boring B-7 was advanced approximately 15 ft to the southeast of the former UST, in an attempt to determine the downgradient extent of petroleum contamination. This boring was completed to a total depth of 8.0 ft bgs.
- Soil Boring B-8 was advanced approximately 8 ft to the east of the former UST, in an attempt to determine the downgradient extent of petroleum contamination. This boring was completed to refusal at a total depth of 6.0 ft bgs.

Further details of the soil borings and monitor well are presented below and in **Appendix A: Boring Logs**.

Borings were advanced to depths ranging from 5.5 to 12.0 ft bgs. All borings were logged, describing soil strata conditions, and analyzed with the PID using conventional jar headspace techniques.

General soil conditions encountered at the SITE consisted of fine to coarse sand and gravel fill overlying green schist bedrock. Significant groundwater was not encountered during this investigation.

Contaminated soil was encountered during the installation of borings B-1, B-3, B-4, B-6, B-6B, and B-7 as evidenced by positive PID headspace readings. Headspace analyses performed on samples collected indicate a maximum PID reading of 91.6 ppmv in B-4 (0 to 4 ft bgs). All other PID readings within these borings ranged between 0.1 ppmv (B-1; 0 to 4 ft bgs) and 22.2 ppmv (B-4; 4 to 8 ft bgs). Please refer to **Table 2, Summary of Field Screening Results**, and **Appendix A, Boring Logs** for a summary of PID readings obtained during this investigation.

Boring B-4 showed the highest impact to soil. This boring was completed between the former UST and the existing fuel oil UST. Refusal was encountered at a depth of 8.0 ft bgs. A soil sample collected from the base of this boring, at approximately 8.0 ft bgs and analyzed with the PID, indicated a VOC concentration of 8.6 ppmv. Based on the contaminant levels observed at this depth, it does not appear as though significant petroleum contamination has entered what appears to be the bedrock formation.

5.2 SITE Geology

A summary of the predominate native geological units encountered during boring activities consisted of a tight silty sand with a trace of clay and fine gravel characteristic of glacial till, overlying a green schist bedrock. Refusal, a good indication of bedrock, was encountered between 5.5 and 12.0 ft bgs.

Reports published by the Vermont Geological Survey^{1,2} indicate that the surficial deposits in the SITE vicinity are comprised of glacial till, predominantly silty sand, clay, and gravel mantling

¹ Stewart, David P., 1970, Surficial Geologic Map of Vermont: C.G. Doll, Editor, Vermont Geol. Survey.

² Christman, R.A., 1959, Geology of the Mt. Mansfield Quadrangle: Vermont Geol. Survey, Bull., 12, 75 pp.

bedrock. Bedrock beneath the SITE is reportedly comprised of a Cambrian Age (505-570 million years old) green phyllite schist known as part of the Camels Hump Group. For a more detailed description of geological units, see Boring Logs, **Appendix A**.

5.3 SITE Supply Well Sampling

On October 24, 1998, a SITE supply well sample was collected from the outdoor water faucet located adjacent to the front entryway. The faucet was allowed to run for approximately three (3) minutes, in order to allow for collection of a representative sample. This sample was submitted to Endyne, Inc. of Williston Vermont (Endyne) for laboratory analysis via US EPA Method 524.2 for VOCs. Data returned from Endyne indicated that all compounds were below method detection limits (MDLs). All MDLs for the target compounds were below their respective Vermont Groundwater Enforcement Standard (VGES) levels. The complete laboratory deliverables package received from Endyne is presented as **Attachment 2**.

6.0 RECEPTOR EVALUATION

During the SITE investigation activities, a sensitive receptor evaluation was conducted in the immediate vicinity. This investigation focused on surface water receptors, groundwater supply wells, and area residences.

A visual reconnaissance was performed along the slope leading to the east, attempting to identify seeps, or other evidence that petroleum related contamination is migrating off SITE. No seeps were located.

The Creek, the nearest surface water receptor, is located approximately 1,200 feet to the east of the SITE and does not appear likely to be impacted from the conditions on SITE.

The SITE and other residences in the vicinity obtain water from private drilled wells. Subsequent sampling of area wells was dependent on whether or not the SITE supply well contained detectable levels of petroleum contamination. With no detectable concentrations of petroleum related compounds in the SITE supply well (nearest supply to the release), the low concentrations of VOCs in soil immediately above bedrock, the lack of significant groundwater to transport contaminants, and the distance to the other area supply wells (500 ft +), it does not appear necessary to sample additional wells at this time.

There are no other residential basements in the immediate vicinity and downgradient of the SITE likely to be impacted, and the SITE building showed no obvious signs of impact (i.e.-elevated PID readings).

No other sensitive receptors were identified within the immediate vicinity during this investigation.

7.0 SUMMARY AND CONCLUSIONS

Based on the information and analytical data obtained during this investigation, TSEC concludes the following:

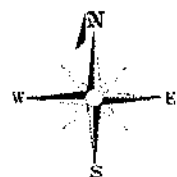
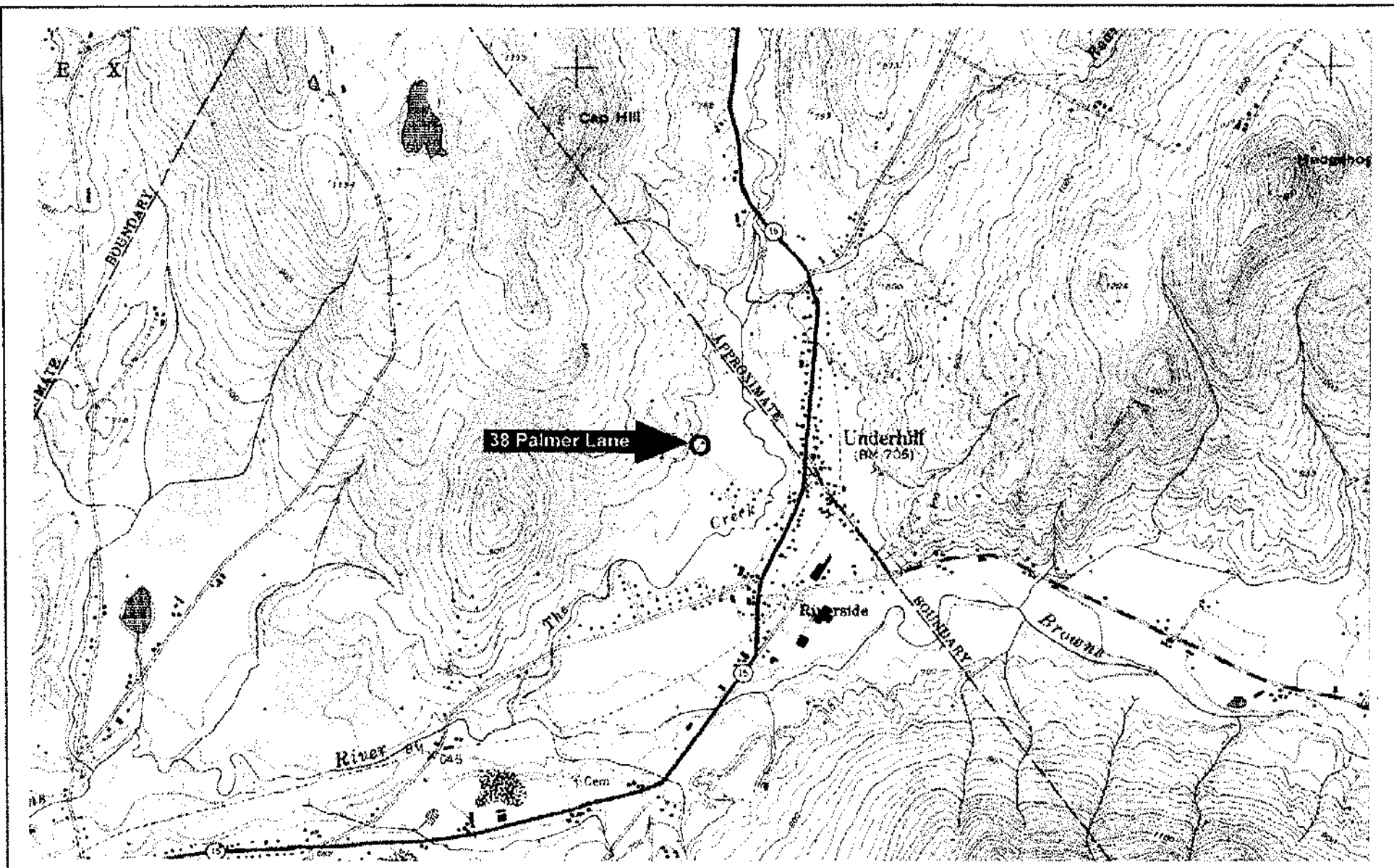
- The suspected source of the contamination, the 500-gallon capacity UST, was removed from the SITE.
- Soils encountered in the vicinity of the former UST exhibit elevated VOC levels as evidenced by PID readings. No other contamination was observed. It appears as though the degree and extent of petroleum contamination within the subsurface soils at the SITE has been adequately defined, and that the contamination is limited to the overburden soils proximate to the former UST.
- Bedrock was encountered prior to a competent overburden aquifer. Based on VOC levels in soil at the overburden/bedrock interface, it does not appear as though significant petroleum contamination has entered the bedrock formation beneath the SITE.
- The SITE supply well sample did not contain any detectable concentrations of target VOCs.

8.0 RECOMMENDATIONS

Due to the limited presence of contamination in soil, and the lack of a transporting mechanism, TSEC recommends the following:

- The SITE should be considered for a Sites Management Activity Complete (SMAC) designation.

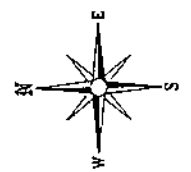
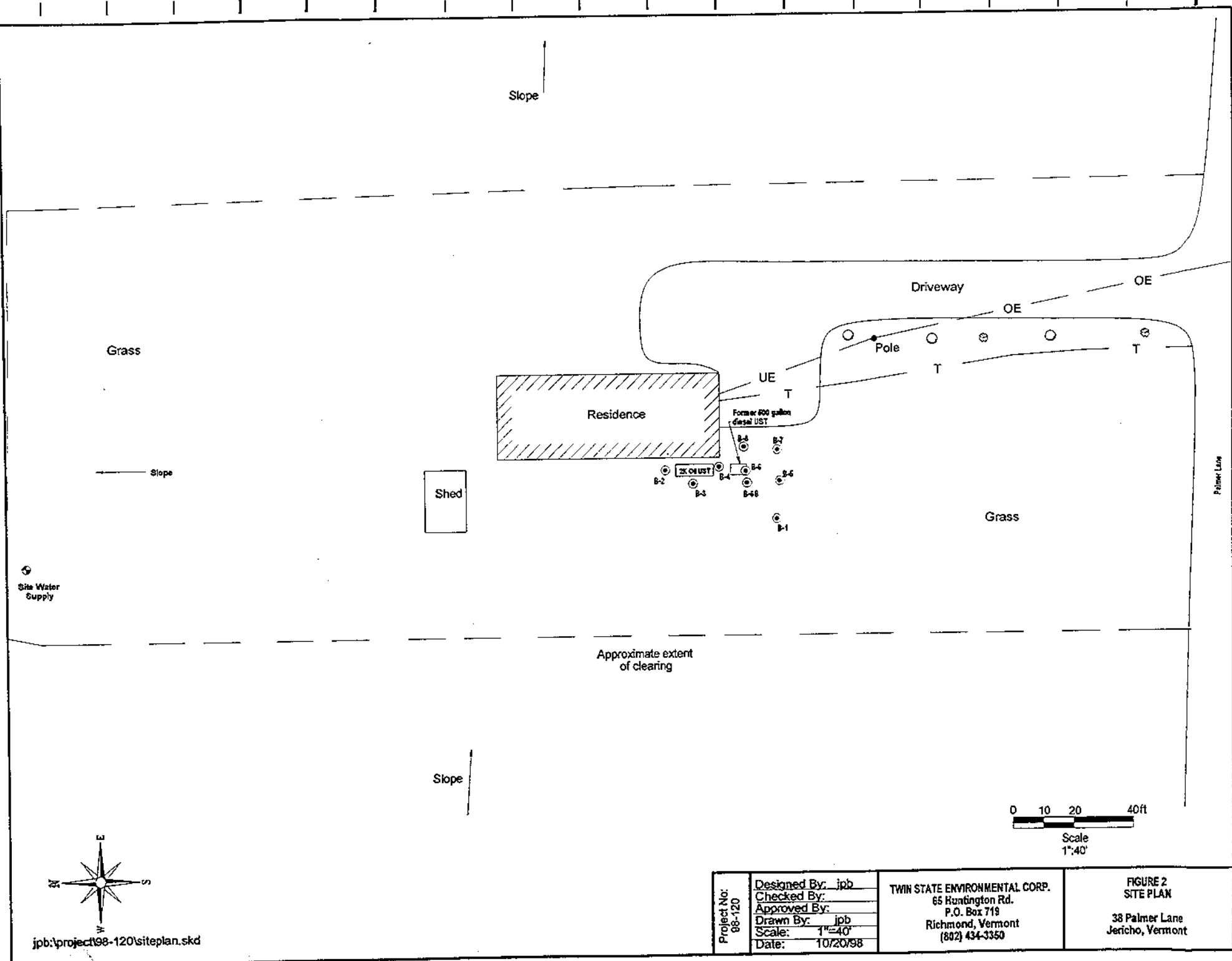
FIGURES



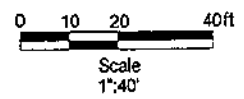
Source: USGS 7.5 Minute Topographic Series
Underhill, Vermont Quadrangle



Project No: 98-120	Designed By: jpb Checked By: Approved By: Drawn By: jpb Scale: as shown Date: 10/14/98	TWIN STATE ENVIRONMENTAL CORP. 65 Huntington Rd. P.O. Box 719 Richmond, Vermont (802) 434-3350
	FIGURE 1 SITE LOCATION MAP 38 Palmer Lane Jericho, Vermont	



jpb:\project98-120\siteplan.skd



Project No: 98-120	Designed By: jpb	TWIN STATE ENVIRONMENTAL CORP. 65 Huntington Rd. P.O. Box 718 Richmond, Vermont (802) 434-3350	FIGURE 2 SITE PLAN 38 Palmer Lane Jericho, Vermont
	Checked By:		
	Approved By:		
	Drawn By: jpb		
	Scale: 1"=40'		
Date: 10/20/98			

TABLES

TABLE 1

38 PALMER LANE
JERICHO, VERMONT

Soil Analytical Results

September 24, 1998

Sample Location and Depth	TPH as Gasoline	TPH as Fuel Oil
	Results in mg/kg	
SS-7; 6.0 ft	375	1,410

- Notes: 1. Samples were collected during UST closure activities. Please refer to TSEC's Sept. 29, 1998 UST Closure Assessment Report for more information.
2. Depth of sample collection is reported in feet below ground surface (bgs).
3. TPH samples were analyzed via US EPA Method 8100M for fuel oil and via US EPA Method 8015 for gasoline.

TABLE 2

**38 PALMER LANE
JERICHO, VERMONT**

Summary of Field Screening Results

October 19, 1998

Boring Identification	Sample Depth	PID (in ppmv)
B-1	0-4 ft	0.1
	4-8 ft	0.6
B-2	0-4 ft	<0.1
	4-8 ft	<0.1
B-3	0-4 ft	0.3
	4-8 ft	<0.3
B-4	0-4 ft	91.6
	4-8 ft	22.2
	8 ft	8.6
B-5	0-4 ft	<0.1
	4-8 ft	<0.1
B-6	0-4 ft	4.3
	4-8 ft	<0.1
B-6B	0-4 ft	0.6
	4-8 ft	<0.1
	8-12 ft	<0.1
B-7	0-4 ft	0.4
	4-8 ft	<0.1
B-8	0-4 ft	<0.1
	4-8 ft	<0.1

- Notes: 1. Depth of sample collection is reported in feet below ground surface (bgs).
2. PID was a Thermo-Environmental Instruments Model 580B calibrated to an isobutylene standard of 98 ppmv.

APPENDIX A



TWIN STATE ENVIRONMENTAL CORPORATION

65 Huntington Road, P.O. Box 719 Richmond, Vermont 05477
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MONITORING WELL/SOIL BORING LOG

WELL/BORING NO:	B-1	WELL DEPTH:	NA	BORING DEPTH:	8.0 feet
PROJECT NAME:	Palmer Lane SI	DEPTH TO WATER:	NA		
PROJECT NO:	98-120	SCREEN DIA:	NA	DEPTH:	NA
INSTALL DATE:	October 19, 1998	SCREEN TYPE/SIZE:	NA		
TSEC REP:	Jon Berntsen	RISER TYPE:	NA		
DRILLING CO:	TSEC	RISER DIA.:	NA	DEPTH:	NA
DRILLING METHOD:	Geoprobe	GUARD TYPE:	NA		
SAMPLING METHOD:	Macrocore Sampler	RISER CAP:	NA		
REMARKS:	Borings were backfilled with bentonite, drill cuttings, and sand.				

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES	LEGEND
0	N	0-4	0.1	3.0 ft recovery	0.0-0.3: Silty SAND and organic topsoil.	CEMENT GROUT
1	O				0.3-1.3: Tight silty SAND, light brown.	
2					1.3-1.5: Broken rock fill material.	NATIVE BACKFILL
3	W				1.5-3.0: Silty SAND, light brown. Little water at 3.0 ft bgs.	
4	E	4-8	0.6	3.0 ft recovery	4.0-5.0: Silty SAND with gravel and a trace of clay. Brown, dry.	BENTONITE SEAL
5	L				5.0-6.5: Silty SAND with gravel and little clay. Brown, dry.	SAND PACK
6	L				6.5-7.0: Silty SAND with clay. Brown, wet.	
7						WELL SCREEN
8	I				End of Sampling = 8.0 feet	
9	N				End of Boring = 8.0 feet	RISER PIPE
10	S					
11	T					
12	A					HS HEAD SPACE
13	L					
14	L					WATER LEVEL (APPROXIMATE)
15	E					
16	D					
17						
18						
19						
20						
21						
22						
23						
24						
25						
GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	NOTES: 1. See Figure 2, SITE Plan, for boring locations 2. PID readings were obtained using a Thermo Environmental Instruments Model 580 B PID equipped with a 10.6eV lamp. Conventional headspace techniques were used.	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	TRACE 0-10%		
0-4	V.LOOSE	<2	V.SOFT	LITTLE 10-20%		
4-10	LOOSE	2-4	SOFT	SOME 20-35%		
10-30	M.DENSE	4-8	M.STIFF	AND 35-50%		
30-50	DENSE	8-15	STIFF			
>50	V.DENSE	15-30	V.STIFF			
		>30	HARD			



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Page 1 of 1

MONITORING WELL/SOIL BORING LOG

WELL/BORING NO:	B-2	WELL DEPTH:	NA	BORING DEPTH:	8.0 feet
PROJECT NAME:	Palmer Lane SI	DEPTH TO WATER:	NA		
PROJECT NO:	98-120	SCREEN DIA:	NA	DEPTH:	NA
INSTALL DATE:	October 19, 1998	SCREEN TYPE/SIZE:	NA		
TSEC REP:	Jon Berntsen	RISER TYPE:	NA		
DRILLING CO:	TSEC	RISER DIA:	NA	DEPTH:	NA
DRILLING METHOD:	Geoprobe®	GUARD TYPE:	NA		
SAMPLING METHOD:	Macrocore Sampler	RISER CAP:	NA		
REMARKS:	Borings were backfilled with bentonite, drill cuttings, and sand.				

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES	LEGEND																																			
0	N	0-4	<0.1	1.3 ft recovery	0.0-0.65: Silty SAND and organic topsoil.	CEMENT GROUT																																			
1	O				0.65-0.9: Broken rock fill material.	NATIVE BACKFILL																																			
2	W	4-8	<0.1	1.5 ft recovery	0.9-1.3: Silty SAND, light brown.	BENTONITE SEAL																																			
3					4.0-5.5: Silty SAND with gravel and trace of clay. Brown, dry to 5 ft, damp to 5.5 ft.	SAND PACK																																			
4	End of Sampling = 8.0 feet End of Boring = 8.0 feet					WELL SCREEN																																			
5					RISER PIPE																																				
6	HS HEAD SPACE				WATER LEVEL (APPROXIMATE)																																				
7						I																																			
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TWIN STATE ENVIRONMENTAL CORPORATION

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MONITORING WELL/SOIL BORING LOG

WELL/BORING NO:	B-3	WELL DEPTH:	NA	BORING DEPTH:	8.0 feet
PROJECT NAME:	Palmer Lane SI	DEPTH TO WATER:	NA		
PROJECT NO:	98-120	SCREEN DIA:	NA	DEPTH:	NA
INSTALL DATE:	October 19, 1998	SCREEN TYPE/SIZE:	NA		
TSEC REP:	Jon Berntsen	RISER TYPE:	NA		
DRILLING CO:	TSEC	RISER DIA.:	NA	DEPTH:	NA
DRILLING METHOD:	Geoprobe®	GUARD TYPE:	NA		
SAMPLING METHOD:	Macrocore Sampler	RISER CAP:	NA		
REMARKS:	Borings were backfilled with bentonite, drill cuttings, and sand.				

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES	LEGEND
0	N	0-4	0.3	3.5 ft recovery	0.0-3.5: Tight silty SAND with trace of gravel. Lt. brown, dry.	CEMENT GROUT
1	O					NATIVE BACKFILL
2						BENTONITE SEAL
3	W					SAND PACK
4	E	4-8	<0.1	4.0 ft recovery	4.0-7.0: Tight silty SAND with trace of gravel. Lt. brown, damp to 6.0, wet to 7.0. 7.0-7.9: Fine SAND with trace of gravel. Tan, damp. 7.9-8.0: Broken greenstone in core.	WELL SCREEN
5	L				Refusal at 8.0 ft bgs.	RISER PIPE
6	L				End of Sampling = 8.0 feet End of Boring = 8.0 feet	HS HEAD SPACE
7						WATER LEVEL (APPROXIMATE)
8	I					
9	N					
10	S					
11	T					
12	A					
13	L					
14	L					
15	E					
16	D					
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25						
GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	NOTES: 1. See Figure 2, SITE Plan, for boring locations 2. PID readings were obtained using a Thermo Environmental Instruments Model 580 B PID equipped with a 10.6eV lamp. Conventional headspace techniques were used.	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	TRACE 0-10%		
0-4	V.LOOSE	<2	V.SOFT	LITTLE 10-20%		
4-10	LOOSE	2-4	SOFT	SOME 20-35%		
10-30	M.DENSE	4-8	M.STIFF	AND 35-50%		
30-50	DENSE	8-15	STIFF			
>50	V.DENSE	15-30	V.STIFF			
		>30	HARD			



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MONITORING WELL/SOIL BORING LOG

WELL/BORING NO:	B-4	WELL DEPTH:	NA	BORING DEPTH:	8.0 feet
PROJECT NAME:	Palmer Lane SI	DEPTH TO WATER:	NA		
PROJECT NO:	98-120	SCREEN DIA:	NA	DEPTH:	NA
INSTALL DATE:	October 19, 1998	SCREEN TYPE/SIZE:	NA		
TSEC REP:	Jon Berntsen	RISER TYPE:	NA		
DRILLING CO:	TSEC	RISER DIA.:	NA	DEPTH:	NA
DRILLING METHOD:	Geoprobe®	GUARD TYPE:	NA		
SAMPLING METHOD:	Macrocore Sampler	RISER CAP:	NA		
REMARKS:	Borings were backfilled with bentonite, drill cuttings, and sand.				

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES	LEGEND
0	N	0-4	91.6	1.0 ft recovery	0.0-1.0: Tight silty SAND with trace of gravel. Lt. brown, dry. Slight petro. odor.	CEMENT GROUT
1	O					NATIVE BACKFILL
2						BENTONITE SEAL
3	W					SAND PACK
4	E	4-8	22.2	1.5 ft recovery	4.0-5.5: Silty SAND. Wet to 4.6 ft, damp below. Slight odor.	WELL SCREEN
5	L		8.6 (at bottom)	(sample from cutting shoe)		RISER PIPE
6	L				Refusal at 8.0 ft bgs.	HS HEAD SPACE
7					End of Sampling = 8.0 feet	WATER LEVEL (APPROXIMATE)
8	I				End of Boring = 8.0 feet	
9	N					
10	S					
11	T					
12	A					
13	L					
14	L					
15	E					
16	D					
17						
18						
19						
20						
21						
22						
23						
24						
25						
GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	NOTES: 1. See Figure 2, SITE Plan, for boring locations 2. PID readings were obtained using a Thermo Environmental Instruments Model 580 B PID equipped with a 10.6eV lamp. Conventional headspace techniques were used.	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	TRACE		
0-4	V.LOOSE	<2	V.SOFT	LITTLE		
4-10	LOOSE	2-4	SOFT	SOME		
10-30	M.DENSE	4-8	M.STIFF	AND		
30-50	DENSE	8-15	STIFF			
>50	V.DENSE	15-30	V.STIFF			
		>30	HARD			



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MONITORING WELL/SOIL BORING LOG

WELL/BORING NO:	B-5	WELL DEPTH:	NA	BORING DEPTH:	6.0 feet
PROJECT NAME:	Palmer Lane SI	DEPTH TO WATER:	NA		
PROJECT NO:	98-120	SCREEN DIA:	NA	DEPTH:	NA
INSTALL DATE:	October 19, 1998	SCREEN TYPE/SIZE:	NA		
TSEC REP:	Jon Berntsen	RISER TYPE:	NA		
DRILLING CO:	TSEC	RISER DIA.:	NA	DEPTH:	NA
DRILLING METHOD:	Geoprobe®	GUARD TYPE:	NA		
SAMPLING METHOD:	Macrocore Sampler	RISER CAP:	NA		
REMARKS:	Borings were backfilled with bentonite, drill cuttings, and sand.				

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES	LEGEND
0	N	0-4	<0.1	4.0 ft recovery	0.0-0.5: Silty TOPSOIL with grass.	CEMENT GROUT
1	O				0.5-4.0: Tight silty SAND with trace of gravel. Lt. brown, dry.	NATIVE BACKFILL
2						
3	W					
4	E	4-8	<0.1	2.0 ft recovery	4.0-6.0: Silty SAND with trace of gravel. Brown, damp.	BENTONITE SEAL
5	L					SAND PACK
6	L					WELL SCREEN
7					Refusal at 6.0 ft bgs.	RISER PIPE
8	I				End of Sampling = 6.0 feet	HS HEAD SPACE
9	N				End of Boring = 6.0 feet	WATER LEVEL (APPROXIMATE)
10	S					
11	T					
12	A					
13	L					
14	L					
15	E					
16	D					
17						
18						
19						
20						
21						
22						
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GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED		NOTES: 1. See Figure 2, SITE Plan, for boring locations 2. PID readings were obtained using a Thermo Environmental Instruments Model 580 B PID equipped with a 10.6eV lamp. Conventional headspace techniques were used.
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	TRACE	0-10%	
0-4	V.LOOSE	<2	V.SOFT	LITTLE	10-20%	
4-10	LOOSE	2-4	SOFT	SOME	20-35%	
10-30	M.DENSE	4-8	M.STIFF	AND	35-50%	
30-50	DENSE	8-15	STIFF			
>50	V.DENSE	15-30	V.STIFF			
		>30	HARD			



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MONITORING WELL/SOIL BORING LOG

WELL/BORING NO:	B-6	WELL DEPTH:	NA	BORING DEPTH:	5.5 feet
PROJECT NAME:	Palmer Lane SI	DEPTH TO WATER:	NA		
PROJECT NO:	98-120	SCREEN DIA:	NA	DEPTH:	NA
INSTALL DATE:	October 19, 1998	SCREEN TYPE/SIZE:	NA		
TSEC REP:	Jon Berntsen	RISER TYPE:	NA		
DRILLING CO:	TSEC	RISER DIA:	NA	DEPTH:	NA
DRILLING METHOD:	Geoprobe®	GUARD TYPE:	NA		
SAMPLING METHOD:	Macrocore Sampler	RISER CAP:	NA		
REMARKS:	Borings were backfilled with bentonite, drill cuttings, and sand.				

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES	LEGEND
0	N	0-4	4.3	3.0 ft recovery	0.0-3.0: Silty SAND and GRAVEL backfill. Slight septic odor.	CEMENT GROUT
1	O					NATIVE BACKFILL
2						BENTONITE SEAL
3	W					SAND PACK
4	E	4-8	<0.1	1.5 ft recovery	4.0-5.5: Silty SAND with trace of gravel. Brown, wet between 4.0 and 4.2 ft bgs.	WELL SCREEN
5	L					RISER PIPE
6	L					HS HEAD SPACE
7					Refusal at 5.5 ft bgs.	WATER LEVEL (APPROXIMATE)
8	I				End of Sampling = 5.5 feet	
9	N				End of Boring = 5.5 feet	
10	S					
11	T					
12	A					
13	L					
14	L					
15	E					
16	D					
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GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	NOTES: 1. See Figure 2, SITE Plan, for boring locations 2. PID readings were obtained using a Thermo Environmental Instruments Model 580 B PID equipped with a 10.6eV lamp. Conventional headspace techniques were used.	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	TRACE		
0-4	V.LOOSE	<2	V.SOFT	LITTLE		
4-10	LOOSE	2-4	SOFT	SOME		
10-30	M.DENSE	4-8	M.STIFF	AND		
30-50	DENSE	8-15	STIFF			
>50	V.DENSE	15-30	V.STIFF			
		>30	HARD			



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MONITORING WELL/SOIL BORING LOG

WELL/BORING NO:	B-6B	WELL DEPTH:	NA	BORING DEPTH:	12.0 feet
PROJECT NAME:	Palmer Lane SI	DEPTH TO WATER:	NA		
PROJECT NO:	98-120	SCREEN DIA:	NA	DEPTH:	NA
INSTALL DATE:	October 19, 1998	SCREEN TYPE/SIZE:	NA		
TSEC REP:	Jon Berntsen	RISER TYPE:	NA		
DRILLING CO:	TSEC	RISER DIA.:	NA	DEPTH:	NA
DRILLING METHOD:	Geoprobe®	GUARD TYPE:	NA		
SAMPLING METHOD:	Macrocore Sampler	RISER CAP:	NA		
REMARKS:	Borings were backfilled with bentonite, drill cuttings, and sand.				

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES	LEGEND
0	N	0-4	0.6	3.0 ft recovery	0.0-3.0: Silty SAND and GRAVEL backfill. Slight septic odor.	CEMENT GROUT
1	O					NATIVE BACKFILL
2						BENTONITE SEAL
3	W					SAND PACK
4	E	4-8	<0.1	2.0 ft recovery	4.0-6.0: Silty SAND with trace of gravel. Brown, damp.	WELL SCREEN
5	L					RISER PIPE
6	L					HS HEAD SPACE
7						WATER LEVEL (APPROXIMATE)
8	I	8-12	<0.1	3.0 ft recovery	8.0-9.5: Silty SAND with trace of gravel. Brown, damp.	
9	N				9.5-11.0: Fine and medium SAND and medium and coarse GRAVEL. Brown, no odor.	
10	S				Refusal at 12.0 ft bgs.	
11	T				End of Sampling = 12.0 feet	
12	A				End of Boring = 12.0 feet	
13	L					
14	L					
15	E					
16	D					
17						
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GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED		NOTES: 1. See Figure 2, SITE Plan, for boring locations 2. PID readings were obtained using a Thermo Environmental Instruments Model 580 B PID equipped with a 10.6eV lamp. Conventional headspace techniques were used.
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	TRACE	0-10%	
0-4	V.LOOSE	<2	V.SOFT	LITTLE	10-20%	
4-10	LOOSE	2-4	SOFT	SOME	20-35%	
10-30	M.DENSE	4-8	M.STIFF	AND	35-50%	
30-50	DENSE	8-15	STIFF			
>50	V.DENSE	15-30	V.STIFF			
		>30	HARD			



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MONITORING WELL/SOIL BORING LOG

WELL/BORING NO:	B-7	WELL DEPTH:	NA	BORING DEPTH:	8.0 feet
PROJECT NAME:	Palmer Lane SI	DEPTH TO WATER:	NA		
PROJECT NO:	98-120	SCREEN DIA:	NA	DEPTH:	NA
INSTALL DATE:	October 19, 1998	SCREEN TYPE/SIZE:	NA		
TSEC REP:	Jon Berntsen	RISER TYPE:	NA		
DRILLING CO:	TSEC	RISER DIA:	NA	DEPTH:	NA
DRILLING METHOD:	Geoprobe®	GUARD TYPE:	NA		
SAMPLING METHOD:	Macrocore Sampler	RISER CAP:	NA		
REMARKS:	Borings were backfilled with bentonite, drill cuttings, and sand.				

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES	LEGEND
0	N	0-4	0.4	4.0 ft recovery	0.0-4.0: Tight silty SAND with trace of gravel. Brown, damp.	CEMENT GROUT
1	O					NATIVE BACKFILL
2						BENTONITE SEAL
3	W					SAND PACK
4	E	4-8	<0.1	4.0 ft recovery	4.0-8.0: Tight silty SAND with trace of gravel. Brown, wet between 7.0 and 7.5 ft.	WELL SCREEN
5	L					RISER PIPE
6	L					HS HEAD SPACE
7						WATER LEVEL (APPROXIMATE)
8	I				End of Sampling - 8.0 feet End of Boring - 8.0 feet	
9	N					
10	S					
11	T					
12	A					
13	L					
14	L					
15	E					
16	D					
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GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	NOTES: 1. See Figure 2, SITE Plan, for boring locations 2. PID readings were obtained using a Thermo Environmental Instruments Model 580 B PID equipped with a 10.6eV lamp. Conventional headspace techniques were used.	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	TRACE 0-10%		
0-4	V.LOOSE	<2	V.SOFT	LITTLE 10-20%		
4-10	LOOSE	2-4	SOFT	SOME 20-35%		
10-30	M.DENSE	4-8	M.STIFF	AND 35-50%		
30-50	DENSE	8-15	STIFF			
>50	V.DENSE	15-30	V.STIFF			
		>30	HARD			



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MONITORING WELL/SOIL BORING LOG

WELL/BORING NO:	B-8	WELL DEPTH:	NA	BORING DEPTH:	6.0 feet
PROJECT NAME:	Palmer Lane SI	DEPTH TO WATER:	NA		
PROJECT NO:	98-120	SCREEN DIA:	NA	DEPTH:	NA
INSTALL DATE:	October 19, 1998	SCREEN TYPE/SIZE:	NA		
TSEC REP:	Jon Berntsen	RISER TYPE:	NA		
DRILLING CO:	TSEC	RISER DIA.:	NA	DEPTH:	NA
DRILLING METHOD:	Geoprobe®	GUARD TYPE:	NA		
SAMPLING METHOD:	Macrocore Sampler	RISER CAP:	NA		
REMARKS:	Borings were backfilled with bentonite, drill cuttings, and sand.				

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES	LEGEND
0	N	0-4	<0.1	3.0 ft recovery	0.0-0.5: Black SILT. Tight, dry.	CEMENT GROUT
1	O				0.5-1.0: Medium SAND and GRAVEL. Tan, dry.	
2					1.0-2.0: Tight silty SAND with trace of gravel. Brown, damp.	NATIVE BACKFILL
3	W				2.0-3.0: Tight SILT. Brown/tan, damp.	
4	E	4-8	<0.1	2.0 ft recovery	4.0-5.9: Tight silty SAND with trace of gravel. Brown, damp.	BENTONITE SEAL
5	L				5.9-6.0: Broken greenstone in cutting shoe.	SAND PACK
6	L				Refusal at 6.0 ft bgs.	
7					End of Sampling = 6.0 feet	WELL SCREEN
8	I				End of Boring = 6.0 feet	RISER PIPE
9	N					HS HEAD SPACE
10	S					
11	T					
12	A					
13	L					
14	L					
15	E					
16	D					
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GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	NOTES: 1. See Figure 2, SITE Plan, for boring locations 2. PID readings were obtained using a Thermo Environmental Instruments Model 580 B PID equipped with a 10.6eV lamp. Conventional headspace techniques were used.	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY	TRACE 0-10%		
0-4	V.LOOSE	<2	V.SOFT	LITTLE 10-20%		
4-10	LOOSE	2-4	SOFT	SOME 20-35%		
10-30	M.DENSE	4-8	M.STIFF	AND 35-50%		
30-50	DENSE	8-15	STIFF			
>50	V.DENSE	15-30	V.STIFF			
		>30	HARD			

ATTACHMENT 1



ENDYNE, INC.

OCT 14 1998

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Twin State Environmental Corp.
PROJECT NAME: Palmer Lane UST
DATE REPORTED: October 12, 1998
DATE SAMPLED: September 24, 1998

PROJECT CODE: TSEC1557
REF. #: 127,896

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated proper sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry Locker, Ph.D.
Laboratory Director

enclosures



ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

TOTAL PETROLEUM HYDROCARBONS (TPH) BY MODIFIED EPA METHOD 8100

DATE: October 12, 1998

CLIENT: Twin State Environmental Corp.

PROJECT: Palmer Lane UST

PROJECT CODE: TSEC1557

COLLECTED BY: John Diego

DATE SAMPLED: September 24, 1998

DATE RECEIVED: September 28, 1998

Reference #	Sample ID	Concentration (mg/kg) ¹
127,896	SS-7; 09:39	1,410.

Notes:

- 1 Value quantitated based on the response of #2 Fuel Oil. Method detection limit is 5.0 mg/kg.

Requested Analyses											
1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD ₅	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										



ENDYNE, INC.

OCT 8 1998

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Twin State Environmental Corp.
PROJECT NAME: Palmer Lane UST
DATE REPORTED: October 6, 1998
DATE SAMPLED: September 24, 1998

PROJECT CODE: TSEC1556
REF. #: 127,895

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated proper sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry Locker, Ph.D.
Laboratory Director

enclosures



ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

TOTAL PETROLEUM HYDROCARBONS (TPH) BY MODIFIED EPA METHOD 8015

DATE: October 6, 1998
CLIENT: Twin State Environmental Corp.
PROJECT: Palmer Lane UST
PROJECT CODE: TSEC1556
COLLECTED BY: John Diego
DATE SAMPLED: September 24, 1998
DATE RECEIVED: September 28, 1998

Reference #	Sample ID	Concentration (mg/kg) ¹
127,895	SS-7; 0939	375.

Notes:




1 Value quantitated based on the response of Gasoline. Method detection limit is 1.0 mg/kg.

CHAIN-OF-CUSTODY RECORD

22520

Project Name: <i>Palmer Lane USF</i>	Reporting Address: <i>TSEC</i>	Billing Address: <i>TSEC</i>
Site Location: <i>38 Palmer Lane Jericho VT</i>	<i>RD 13 719 Richmond VT</i>	
Endyne Project Number: <i>TSEC1556</i>	Company: <i>TSEC</i> Contact Name/Phone #: <i>John Diego 434-3350</i>	Sampler Name: <i>John Diego</i> Phone #: <i>434-3350</i>

[illegible]

Relinquished by: Signature 	Received by: Signature 	Date/Time 9-28-98 15:05
Relinquished by: Signature 	Received by: Signature 	Date/Time 9-28-98 3:55

New York State Project: Yes No

Requested Analyses

[illegible]

ATTACHMENT 2

OCT 29 1998



ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Twin State Environmental
PROJECT NAME: Palmer Lane UST
DATE REPORTED: October 27, 1998
DATE SAMPLED: October 19, 1998

PROJECT CODE: TSEC1308
REF. #: 129,557

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated sample preservation with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

A handwritten signature in black ink, appearing to be 'H. Locker', written over a horizontal line.

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

LABORATORY REPORTEPA METHOD 524.2CLIENT: Twin State Environmental
PROJECT NAME: Palmer Lane UST
REPORT DATE: October 27, 1998
DATE SAMPLED: October 19, 1998
DATE RECEIVED: October 19, 1998
DATE ANALYZED: October 26, 1998PROJECT CODE: TSEC1308
STATION: Res. Well
REF. #: 129,557
TIME SAMPLED: 11:50
SAMPLER: Rod Lindsey II

<u>Parameter</u>	<u>Detection Limit(μg/L)</u>	<u>Maximum Contaminant Level (ug/L)</u>	<u>Concentration (μg/L)</u>
Benzene	0.5	5.0	ND ¹
Bromobenzene	0.5	----	ND
Bromochloromethane	0.5	----	ND
Bromomethane	0.5	----	ND
n-Butylbenzene	0.5	----	ND
sec-Butylbenzene	0.5	----	ND
tert-Butylbenzene	0.5	----	ND
Carbon tetrachloride	0.5	5.0	ND
Chlorobenzene	0.5	100.	ND
Chloroethane	0.5	----	ND
Chloromethane	0.5	----	ND
(2&4)Chlorotoluene	1.0	----	ND
1,2-Dibromo-3-chloropropane	1.0	0.2	ND
1,2-Dibromoethane	0.5	0.05	ND
Dibromomethane	1.0	----	ND
1,2-Dichlorobenzene	0.5	600.	ND
1,3-Dichlorobenzene	0.5	----	ND
1,4-Dichlorobenzene	0.5	75.	ND
Dichlorodifluoromethane	0.5	----	ND
1,1-Dichloroethane	0.5	----	ND
1,2-Dichloroethane	0.5	5.0	ND
1,1-Dichloroethene	0.5	7.0	ND
cis-1,2-Dichloroethene	0.5	70.0	ND
trans-1,2-Dichloroethene	0.5	100.	ND
Dichloromethane	1.0	5.0	ND
1,2-Dichloropropane	0.5	5.0	ND



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REF. #: 129,557

EPA Method 524.2 (cont.)

<u>Parameter</u>	<u>Detection Limit($\mu\text{g/L}$)</u>	<u>Maximum Contaminant Level ($\mu\text{g/L}$)</u>	<u>Concentration ($\mu\text{g/L}$)</u>
1,3-Dichloropropane	0.5	----	ND
2,2-Dichloropropane	0.5	----	ND
1,1-Dichloropropene	0.5	----	ND
cis-1,3-Dichloropropene	0.5	----	ND
trans-1,3-Dichloropropene	0.5	----	ND
Ethylbenzene	0.5	700.	ND
Hexachlorobutadiene	0.5	----	ND
Isopropylbenzene	0.5	----	ND
4-Isopropyltoluene	0.5	----	ND
Naphthalene	1.0	----	ND
n-Propylbenzene	0.5	----	ND
Styrene	0.5	100.	ND
1,1,1,2-Tetrachloroethane	0.5	----	ND
1,1,2,2-Tetrachloroethane	1.0	----	ND
Tetrachloroethene	0.5	5.0	ND
Toluene	0.5	1,000.	ND
1,2,3-Trichlorobenzene	0.5	----	ND
1,2,4-Trichlorobenzene	0.5	70.0	ND
1,1,1-Trichloroethane	0.5	200.	ND
1,1,2-Trichloroethane	0.5	----	ND
Trichloroethene	0.5	5.0	ND
Trichlorofluoromethane	1.0	----	ND
1,2,3-Trichloropropane	0.5	----	ND
1,2,4-Trimethylbenzene	0.5	----	ND
1,3,5-Trimethylbenzene	0.5	----	ND
Vinyl Chloride	0.5	2.0	ND
Total Xylenes	1.0	10,000.	ND
MTBE	1.0	----	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

Analytical Surrogate Recovery:

4-Bromofluorobenzene:	92.0%
1,2-Dichlorobenzene-d4:	89.0%

NOTES:

1 None detected



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LABORATORY REPORT

TRIHALOMETHANES BY EPA METHOD 524.2

CLIENT: Twin State Environmental
PROJECT NAME: Palmer Lane UST
REPORT DATE: October 27, 1998
DATE SAMPLED: October 19, 1998
DATE RECEIVED: October 19, 1998
DATE ANALYZED: October 26, 1998

PROJECT CODE: TSEC1308
STATION: Res. Well
REF. #: 129,557
TIME SAMPLED: 11:50
SAMPLER: Rod Lindsey II

<u>Parameter</u>	<u>Detection Limit($\mu\text{g/L}$)</u>	<u>Maximum Contaminant Level ($\mu\text{g/L}$)</u>	<u>Concentration ($\mu\text{g/L}$)</u>
Bromodichloromethane	0.5	----	ND ¹
Bromoform	0.5	----	ND
Chloroform	0.5	----	ND
Dibromochloromethane	0.5	----	ND
Total Trihalomethanes		100.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

Analytical Surrogate Recovery:

4-Bromofluorobenzene:	92.%
1,2-Dichlorobenzene-d4:	89.%

NOTES:

1 None detected

CHAIN-OF-CUSTODY RECORD

Project Name: PALMER LANE UST	Reporting Address: P.O. Box 719 RICHMOND, VT 05477	Billing Address: SAME AS
Site Location: JERICHO, VT		
Endyne Project Number: TSEC1308	Company: TWIN STATE ENVIRONMENTAL Contact Name/Phone #: JOHN DICICCO	Sampler Name: ROD LINDSAY II Phone #: (802) 434-3350

Lab #	Sample Location	Matrix	GRA B	COMP	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
129.557	RES. WELL	W	✓		10/19/98 11:50	2	VOA/40mls		524.2	HCl/ICE	NO

Relinquished by: Signature	Received by: Signature <i>[Signature]</i>	Date/Time 10-19-98 4:25
Relinquished by: Signature <i>[Signature]</i>	Received by: Signature	Date/Time

New York State Project: Yes ☐ No ☒

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD ₅	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										